



[7590-01-P]

## **NUCLEAR REGULATORY COMMISSION**

**[NRC-2009-0549; Docket No. 50-113]**

### **Notice of License Termination for the University of Arizona Research Reactor, License No. R-52**

The U.S. Nuclear Regulatory Commission (NRC) is noticing the termination of Facility Operating License No. R-52, for the University of Arizona Research Reactor (UARR).

The NRC has terminated the license of the decommissioned UARR, at the Nuclear Reactor Laboratory (NRL) on the campus of the University of Arizona (U of AZ) in Pima County, Arizona in the city of Tucson, and has released the site for unrestricted use. The licensee requested termination of the license in a letter to the NRC dated December 1, 2011 (ADAMS Accession Number ML11346A300). The NRL Research Reactor provided training for Nuclear Engineering students and various services for researchers in other departments at the U of AZ. The licensee ceased operation of the facility on May 18, 2010, and the reactor fuel was removed by the Department of Energy on December 23, 2010, with the fuel being delivered to the Idaho National Laboratory. The NRL underwent decommissioning activities from May 2011 through September 2011 followed by Final Status Surveys (FSS) to measure Total (Static) Beta activity and to perform radiological scan measurements. Smears were also collected for tritium and beta to assess the final radiological status of the facility.

The licensee submitted a request dated May 21, 2009 (ML091490076), to the NRC to approve its decommissioning plan (DP), dated May 21, 2009 (ML091490074). The NRC requested additional information for its review of the DP by letter dated February 25, 2010 (ML100550614), and the licensee responded to that request on March 26, 2010

(ML100920089). The NRC approved the UARR DP by Amendment No. 20, dated April 15, 2011 (ML110470589).

As required by the DP license amendment, the U of AZ submitted the Final Status Survey (FSS) Plan for the NRL on May 25, 2011 (ML11168A059). Although no NRC approval was required, the NRC reviewed the survey plan and has determined that it was consistent with the guidance in NUREG-1757, "Consolidated Decommissioning Guidance" and NUREG-1575, "Multi-Agency Radiation Survey and Site Investigation Manual." The U of AZ submitted a revised FSS Plan on August 18, 2011 (ML11234A164). The NRC reviewed this revision and has determined it also to be acceptable.

The U of AZ submitted the FSS report for the NRL on December 1, 2011 (ML11346A300). That report stated that the survey met the FSS plan and the DP, and demonstrated that the NRL met the requirements for unrestricted release specified in 10 CFR Part 20, Subpart E. The NRC reviewed the FSS report and has determined that the survey was conducted in accordance with the Decommissioning Plan and the FSS Plan. Additionally, the NRC has determined that the survey results in the report comply with the criteria in the NRC-approved decommissioning plan and the release criteria in 10 CFR Part 20, Subpart E for both the UARR and the NRL have been met.

On July 5, 2011, NRC Region IV issued inspection report 050-00113/11-001 for the research reactor at the NRL (ML11187A017). The inspector interviewed licensee staff, observed work in progress, and reviewed selected documents related to the licensee's decommissioning activities. The inspector concluded that the licensee and its contracted work force were conducting decommissioning activities in accordance with the NRC approved decommissioning plan. The inspector also determined that the licensee's final status survey plan was in general agreement with NRC guidance.

At the request of the NRC, the Oak Ridge Institute for Science and Education (ORISE) conducted confirmatory survey activities at the NRL during the week of September 6, 2011. ORISE submitted a report of their confirmatory survey activities by letter dated November 7, 2011 (ML11319A101). The survey activities were conducted in accordance with an ORISE confirmatory survey plan provided to and approved by the NRC on August 18, 2011 (ML120400169). The confirmatory survey activities included visual inspections/assessments, gamma measurements, alpha plus beta measurements, smear sampling, and soil sampling activities. As a result of the confirmatory survey activities, ORISE noted two issues with licensee's FSS activities performed at the NRL. The first was an area of residual activity above the Co-60 screening level in source pit number 2. Since confirmatory surveys occurred, surface activity in source pit 2 has been remediated to a value below the Co-60 screening level. The second issue identified by ORISE was use of an incorrect surface efficiency. As a result, the licensee's contractor agreed to re-calculate surface activity using the correct surface efficiency value for Co-60. Because the two issues described have been resolved with the licensee, ORISE concluded that the licensee's FSS data adequately and accurately demonstrated that the NRL is below the appropriate screening levels and that ORISE confirmatory survey activities validate the licensee's conclusion that the appropriate guidelines have been met.

Pursuant to 10 CFR 50.82(b)(6), the NRC staff has concluded that UARR at the NRL has been decommissioned in accordance with the approved decommissioning plan and that the terminal radiation surveys and associated documentation demonstrate that the facilities and site may be released in accordance with the criteria in the NRC-approved decommissioning plan. Further, on the basis of the decommissioning activities carried out by the U of AZ, the NRC's review of the licensee's final status survey report, the results of NRC inspections conducted at the NRL, and the results of confirmatory surveys, the NRC has concluded that the

decommissioning process is complete and the facilities and sites may be released for unrestricted use. Therefore, Facility Operating License No. R-52 is terminated.

For further details with respect to the proposed action, see the licensee's letter dated December 1, 2011. The above referenced documents may be examined, and/or copied for a fee, at the NRC's Public Document Room (PDR) at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically in the NRC Library in the Agencywide Documents Access and Management System (ADAMS) on the Internet at the NRC Web site, <http://www.nrc.gov/reading-rm/adams.html>. Persons who do not have access to ADAMS or who have problems in accessing the documents in ADAMS should call the NRC PDR reference staff at 1-800-397-4209 or 301-415-4737 or e-mail [pdr@nrc.gov](mailto:pdr@nrc.gov).

Dated at Rockville, Maryland, this 28<sup>th</sup> day of February 2012.

FOR THE NUCLEAR REGULATORY COMMISSION

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